Original Article

Oral hygiene awareness and practice amongst patients visiting the Department of Periodontology at a Dental College and Hospital in North India

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Abstract

Objective: This study was carried out to assess the oral hygiene awareness and practices amongst patients visiting the Department of Periodontology at Gian Sagar Dental College and Hospital, Ramnagar (Patiala). **Methods:** A cross-sectional study was carried out amongst the patients visiting the Department of Periodontology of Gian Sagar Dental College and Hospital, Ramnagar, Patiala. This proposed study was reviewed by the Institutional ethical committee and their clearance was obtained. A total of 1000 patients were selected using a convenient sampling technique and a self-constructed questionnaire was presented to them. Responses from the patients were evaluated in terms of numbers and percentages and statistically also they were highly significant ($P < 0.005$). **Results:** The results of the study show an acute lack of oral hygiene awareness and limited knowledge of oral hygiene practices as well as effect of poor oral hygiene on systemic health. **Conclusion**: There is an urgent need for comprehensive educational programs to promote good oral hygiene and impart education about correct oral hygiene practices.

Key words: Awareness, knowledge, practice, oral hygiene, systemic health

INTRODUCTION

Oral diseases are a major public health concern owing to their high prevalence and their effects on the individual's quality of life.[1] The possible etiological factors leading to these oral diseases are genetic predispositions, developmental problems, poor oral hygiene and traumatic incidents.[2] Oral hygiene behavior and seeking oral health care depend on a number of factors. Patients comply better with oral health care regimens when informed and positively reinforced. Lack of information is among the reasons for non adherence to oral hygiene practices. Further, oral health attitude and beliefs are significant for oral health behavior.[3] Keeping a healthy oral profile requires joint efforts from the dentist as well as the patient himself. One of the most important factors that decide the dental health of a population is the outlook of its people toward their dentition.[4]

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Oral health knowledge is considered to be an essential prerequisite for health related behavior, although only a weak association seems to exist between knowledge and behavior in cross- sectional studies, nevertheless studies have shown that there is an association between knowledge and better oral health.[5] Although many studies have been carried out from time to time to assess the knowledge and behavior of people about oral health, there is still a dearth of education regarding the same especially for rural people, who make up for more than 70% of the population in India.[6] Furthermore, even the people living in cities, in spite of having easy access to dental care, fall prey to dental diseases due to their negligence in dietary habits and unhealthy life-style.[7] Therefore the present study was conducted to assess the oral hygiene awareness and practices amongst patients visiting the Gian Sagar Dental College and Hospital, Ramnagar, Patiala (India).

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METHODS

Ethical clearance

A cross-sectional study was carried out on the patients visiting the Department of Periodontology at Gian Sagar Dental College and Hospital, Patiala. This proposed study was reviewed by the Institutional ethical committee and their clearance was obtained. A total of 1000 patients were selected using a convenience sampling technique. Informed consent was obtained from each patient.

Study sample and sampling technique

A cross-sectional study using a 10-item structured was conducted to assess oral hygiene knowledge and awareness in a sample of patients (n = 1110) seeking dental care. A convenient sampling technique was adopted in the present study. The sample size was estimated by use of a sample size calculation for estimating a single proportion (α =0.05, the prevalence of adequate oral health awareness). Only new patients who were visiting the dental college during the study period and agreed to participate were included in the study till the estimated sample size was reached. A total of 1000 patients participated in the current study. The response rate was 90%. A pilot survey was conducted on 10% of the study population to assess the feasibility of the study.

Questionnaire

A self-made closed ended questionnaire written in English/Punjabi language was given to each one of them [Table 1]. The patients were selected both from rural as well as urban population and included both educated and illiterate groups between 18 to 75 years of age. All the patients were assisted by one dental hygienist so that even illiterate patients were able to fill the form or get it filled with ease. The questionnaire included information related to the patient's name, age, sex, education, occupation and residence. The questionnaire was further categorized to evaluate the knowledge and practice related to their oral hygiene.

Data collection

The questionnaires were handed to the patients while they were seated in the waiting area of the Department of Periodontology. At all times, one of the investigators was present with the respondent while the questionnaires were being filled to ensure that the concerned respondent did not discuss the questions or the answers with any other patients sitting in the waiting area and also to make sure that the concerned respondent fully understood the questions as well as the probable answers completely. After distribution of questionnaire, 10 minutes were allotted for completing the questionnaire. Results were subjected for statistical analysis.

Table 1: Questionnaire used in the study

Name:
Age:
Sex: M/F
Occupation:
Address:
Educational status:
1. Do you clean your teeth?
   □Yes □No
2. How do you clean your teeth?
   □Toothbrush and toothpaste
   □Toothbrush and powder
   □Others (*Datun*, Finger, Charcoal powder)
3. How often do you brush your teeth each day?
   □Once
   □Twice
   □More than twice
   □Sometimes
4. What type of tooth brushing methods do you employ?
   □Vertical
   □Horizontal
   □Combined
5. Which secondary methods for plaque control do you use?
   □Dental floss
   □Interdental brushes
   □Toothpicks
   □None
6. Do you clean your tongue?
   □Yes □No
7. Have you ever noticed smell from your mouth?
   □Yes □No
8. Do you know oral health is related to systemic health?
   □Yes □No
9. How often do you visit a dentist?
   □Only in problem
   □Once in three months
   □Once in 6 months
   □Between 1 and 2 years
10. Do you think it is essential to meet a dentist after 6 months?

Statistical analyses

The data was first transferred to Microsoft Excel and then the results were analyzed by using SPSS statistical software in terms of percentages. Associations between discreet variables were tested by Chi-square test. In all the cases, a $P < 0.05$ was considered significant.

RESULTS

The present study was carried out on 1000 patients. Among them, 58.8% were males and 41.2%were females. Distribution of patients according to age and gender is depicted in Table 2. The number of subjects in 21-30 age group was maximum being 270 (27%). In view of their educational background, 610 patients (61%) were having education only up to secondary level. The detailed educational distribution is depicted in Table 3. Approximately, 53.3% of the study patients belonged to rural areas with farming as their primary source of earning meals.

Brushing

On evaluating the dental awareness, it was revealed that both the oral hygiene aids and frequency of cleaning teeth show significant difference among different group of patients ($P < 0.05$). Majority of patients both males and females preferred to use toothbrush and toothpaste as compared to other aids. It is reported that 92.2% males and 87.6% females preferred toothbrush and toothpaste while only 0.2% males and 1.0% females preferred other cleaning aids like datum, finger. Moreover, it was seen that more of rural population (5.6%) as compared to urban population (3.0%) used datun or finger as cleaning aid [Table 4]. It was further observed that majority of patients brushed once daily (62.9%) while 24.9% brushed twice daily and there were 4.7% patients who brushed occasionally [Figure 1].

Interdental aids

It is noteworthy that among all, only around 20% of the patients used any interdental aids like floss, toothpick, interdental brush while 80% patients did not use any interdental aid for cleaning their teeth [Figure 2].

Table 2: Distribution of study population according to age and gender

	Age-group						Total
	≤20	21-30	31-40	41-50	51-60	>60	
Gender							
Male							
No.	81	164	121	91	66	65	588
%	13.8	27.9	20.6	15.5	11.2	11.1	100.0
Female							
No.	62	106	82	90	54	18	412
%	15.0	25.7	19.9	21.8	13.1	4.4	100.0
Total							
No.	143	270	203	181	120	83	1000
%	14.3	27.0	20.3	18.1	12.0	8.3	100.0

Table 3: Depicts distribution of patients according to education level

	No.	%
Education level		
Illiterate	175	17.5
Undergraduate	610	61.0
Graduate	157	15.7
Postgraduate	58	5.8
Total	1000	100.0

Table 4: Distribution of patients according to their method of cleaning teeth

	No.	Percent
Method of cleaning		
Toothbrush	903	90.3
Toothpowder	48	4.8
Datun, finger	44	4.4
None	5	0.5
Total	1000	100.0

Regarding brushing technique maximum number of patients preferred combined method of brushing rather than only vertical or horizontal method of tooth brushing.

Tongue cleaning and Bad breath

Tongue cleaning is also an important aspect of cleaning oral cavity. It was evaluated that among all 67.2% patients cleaned their tongue. Out of which 68.9% were males and 64.8% were females. Though 47.2% of the total subjects felt smell from their oral cavity.

Knowledge and awareness regarding oral health and its effect on systemic health

The results of the study have pointed out that educational level was one of the important factors that governed the knowledge, attitude and behavior of the people. 56.8% of the patients did not have any idea regarding any relationship between oral health and systemic health [Figure 3]. It is surprising that around 75% of the total population visit the dentist only in problem while only 9.3% of the patients visit the dentist on regular basis once in 6 months [Figure 4]. Moreover, 72.5% patients didn't even feel the need to visit a dentist after every 6 months on regular basis.

DISCUSSION

The present study has confirmed the general opinion that oral hygiene has still remained as an ignored and unrealized major social problem. Preventive oral health education is in transitional stage in India. Population based oral health promotional programs are yet to be implemented and followed. Hence in this study attempts were made to describe the preventive oral knowledge, practice and behavior of the studied population. Our study has shown very limited knowledge on prevention and preventive dental behavior.

The relationship between dental service utilization and main demographic variables e.g., age, sex, address, education and occupation are discussed in this study. Our study shows that male patients have utilized the dental services more than the female patients, which is in contrast to the higher rate of utilization by female patients reported in Helsinki *et al*.[8] It has also been evaluated that more of young and educated patients have availed the dental services which shows that education plays an important role in oral health awareness [Table 3].

Brushing was the most commonly used method of teeth cleaning. 90.3% of the total patients cleaned

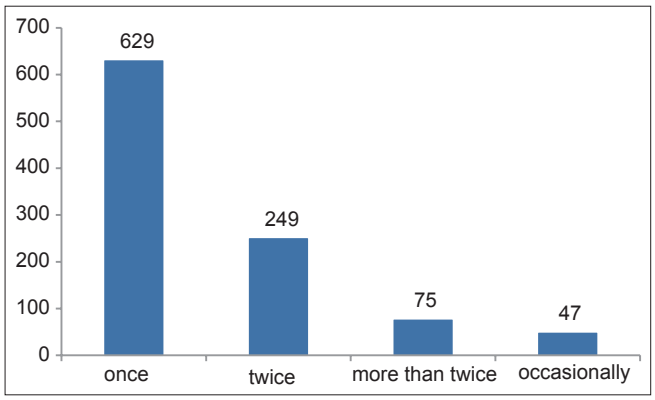

Figure 1: Distribution of study population on the basis of frequency of teeth cleaning

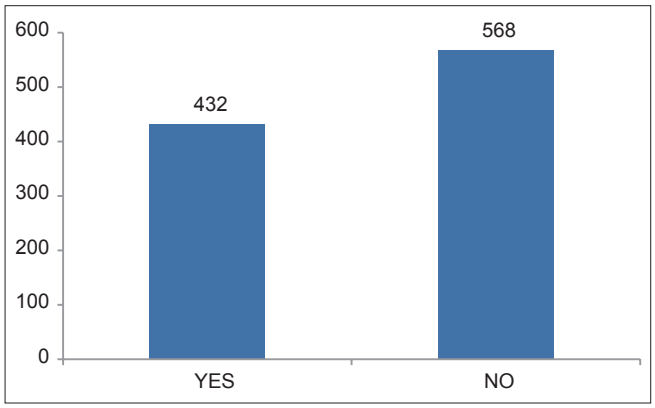

Figure 3: Knowledge regarding relation of oral health to systemic health among the study population

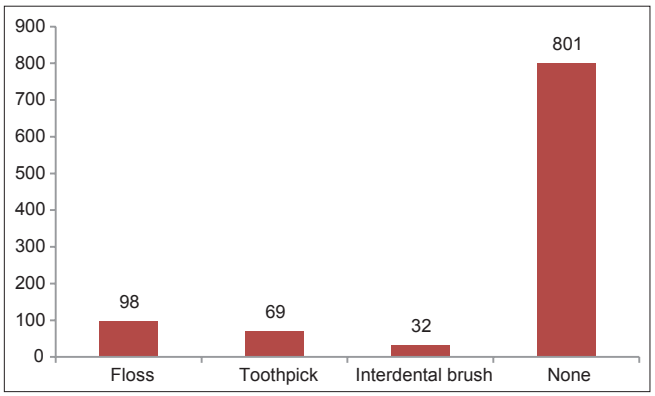

Figure 2: Various interdental aids used by the study population

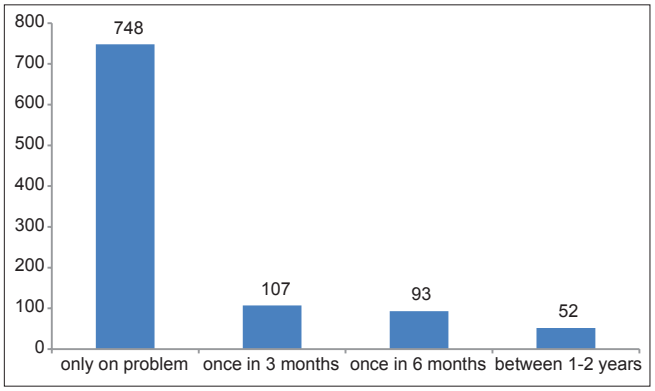

Figure 4: Distribution of study population on the basis of number of visits to the dentists in the past

their teeth with toothbrush and toothpaste [Table 4]. Out of which, only 24.9% of the participants brushed their teeth twice a day which is very less as compared to United States where 90% of the studied group was doing the same.[9] There is generally a failure in the use of interdental aid as a preventive tool. In a study conducted in Saudi Arabia in 2001, where no subject used dental floss for interdental cleaning, which is similar to our results.[10] In the present study about 20% of the total patients used any of the interdental aids, out of which only 9.8% subjects used dental floss, 6.9% patients used toothpick while only 3.2% subjects used any other interdental aid like interdental brush [Figure 2].

Bad breath was experienced by 47.2% of the patients in the present study which is in contrast to the study findings of Kumar *et al*. in which 21% of participants experienced bad breath.[11] Furthermore, results of the present study are in contrast with that of an epidemiologic survey of the general population of Japan where 24% of the individuals examined complained about bad breath.[12] Tongue cleaning was done by 67.2% of the patients in the present study which is in contrast with the study done by Jain *et al*. in which only 20% of the studied population cleaned their tongue.[13] This basic and simple method of maintaining oral hygiene is not very much popular among the population which shows lack of oral health awareness.

It has been observed that oral hygiene has mostly remained as an ignored and unrealized major social problem. Majority of the people are unaware about the relationship between oral hygiene and systemic diseases or disorders. Many diseases show their first appearance through oral signs and symptoms and they remain unchanged or untreated because of this missing awareness. This fact coincides with our present study in which only 43.2% knew about the relationship between the oral health and systemic health.

Visiting a dentist is still not considered a preventive dental behavior, at present it only depends on the treatment needs.[7] The present study shows that around 75% of the patients visited the dentist only in problem and only 10% of the population visited the dentist on regular basis after every 6 months. These results are similar to the study done by Jain *et al*. where 54% of the subjects visited the dentists when

they were in pain.[13] These results also equivocal with the study conducted by Maryln *et al*. in which 67.9% of the study population reported having had a dental checkup at least once a year in the past 5 years.[9]

CONCLUSION AND RECOMMENDATIONS

The present study shows that there is lack in appropriate oral health awareness even among literates. Moreover, majority of the patients were not aware of the fact that oral health has an effect on systemic health. Hence, there is a need to educate and spread knowledge of proper dental care and prevention of dental diseases through the dentists, outreach programs and relevant public health awareness measures to make a healthy individual and a healthy society. Although dental health education is a relatively new discipline within dentistry, it is suggested that this education should start at an early stage in life, be delivered by trained personnel and be carefully integrated in general health.

REFERENCES

1. Butt AM, Ahmed B, Parveen N, Yazdanie N. Oral Health related quality of life in complete dentures. Pak Oral Dent J 2009;29:397-402.
2. Tash RH, O'Shea MM, Cohen K. Testing a Preventive-Symptomatic Theory of dental health behavior. Am J Public Health Nations Health 1969;59:514-21.
3. Chander Shekar BR, Reddy C, Manjunath BC, Suma S. Dental health awareness, attitude, oral health-related habits, and behaviors in relation to socio-economic factors among the municipal employees of Mysore city. Ann Trop Med Public Health 2011;4:99-106.
4. Dagli RJ, Tadakamadla S, Dhanni C, Duraiswamy P, Kulkarni S. Self-reported dental health attitude and behavior of dental students in India. J Oral Sci 2008;50:267-72.
5. Bhat PK, Kumar A, CN Aruna. Preventive oral health knowledge, practice and behavior of patients attending dental institution in Banglore, India. J Int Oral Health 2010;2:1-6.
6. Patil AV, Somasundaram KV, Goyal RC. Current health scenario inrural India. Aust J Rural Health 2002;10:129-35.
7. Gundala R, Chava VK. Effect of lifestyle, education and socioeconomic status on periodontal health. Contemp Clin Dent 2010;1:23-6.
8. Venta I, Murtomma H, Meumrman J, Turtola L. Use of dental services by students of Helsinki University during six years. Proc Finn Dent Soc 1992;88:123-9.
9. Survey of family tooth brushing practices. Bureau of Dental Health Education. Bureau of Research and Statistics. J Am Dent Assoc 1966;72:1489-91.
10. Jamjoom HM. Preventive Oral Health Knowledge and Practice in Jeddah, Saudi Arabia. J KAU Med Sci 2001;9:17-25.
11. Kumar S. Oral Hygiene Awareness among Two Non Professional College Students in Chennai, India- A Pilot Study. Adv Life Sci Technol 2012;5:31-6.
12. Miyazaki H, Sakao S, Katoh Y, Takehara T. Oral malodor in the general population of Japan. Bad Breath. Research Perspectives. Israel: Ramot Publishing: Tel Aviv University; 1995. p. 119-36.
13. Jain N, Mitra D, Ashok KP, Dundappa J, Soni S, Ahmed S. Oral hygiene - Awareness and practice among patients attending OPD at Vyas Dental College and Hospital, Jodhpur. J Indian Soc Periodontol 2012;16:524-8.

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